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HOW DO YOUR HOGS GRADE?

- **U.S. No. 1**
- **U.S. No. 2**
- **U.S. No. 3**
- **Medium**
- **Cull**



AMS 412

Oct. 1960

U. S. Department of Agriculture
Agricultural Marketing Service
Livestock Division
Washington, D. C.

WHY U.S. GRADES FOR HOGS?

Why do we need U. S. grades for hogs? To help measure and identify differences in hogs and pork carcasses. A yardstick of this kind can help you produce and market hogs which meet today's demand for high quality, lean pork.

That's why the U. S. Department of Agriculture has developed standards for slaughter swine and for pork carcasses. These standards are designed so that a U. S. No. 1 hog will produce a U. S. No. 1 carcass.

Since these are Federal grades, based on published standards available to all, they provide a common language for use between buyers and sellers throughout the nation.

Further, the grades are used by the Federal-State market news service as the basis for reporting hog prices, supplies, and demand. This makes it possible to make meaningful comparisons between markets anywhere in the country.

You can make more effective use of the U. S. grades for hogs in planning your production and marketing if you thoroughly understand them and the factors on which they are based.

This bulletin is intended to explain and illustrate the grades and their use. You may also obtain copies of the Official United States Standards for Grades of Slaughter Swine (SRA-AMS 172) and of the Official United States Standards for Grades of Pork Carcasses (SRA-AMS 171). They are available free of charge from the Livestock Division, Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C.

WHAT THE GRADES ARE

U. S. grades for hogs and pork carcasses provide a measure of differences in (1) yields of cuts and (2) the quality of the meat.

There are five Federal grades: U. S. No. 1, U. S. No. 2, U. S. No. 3, Medium, and Cull.

Hogs with enough finish to produce pork of acceptable quality--tender, juicy, and flavorful--are included in the No. 1, No. 2, and No. 3 grades. Although similar in quality, these grades differ widely in yields of cuts.

The U. S. No. 1 grade goes to the hog with the minimum finish necessary to produce good quality meat. This hog will produce the maximum yield of the lean, high-quality pork consumers desire.

Overfinished hogs, which will produce less lean meat and more fat, are graded No. 2 or No. 3, depending on the degree of overfinish.

Underfinished hogs, though they yield a high percentage of lean meat, produce pork of low quality. They will grade Medium or Cull, depending on the degree of underfinish.

CUTTING YIELD--KEY TO GRADE

The difference between the No. 1, No. 2, and No. 3 grades for hogs and pork, then, is chiefly in the yield of lean meat.

Yield of the four lean cuts--hams, loins, picnics, and Boston butts--is particularly important. These four lean cuts account for nearly 2/3's of the value of the carcass.

The difference between these grades in yield of these cuts is approximately three percent. This is enough to mean a decided difference in value.

For instance, on the basis of average wholesale prices for pork cuts at Chicago during the year ended June 30, 1960, a U. S. No. 1 barrow or gilt was worth 60 cents more per hundredweight than a U. S. No. 2 of the same weight and dressing percentage.

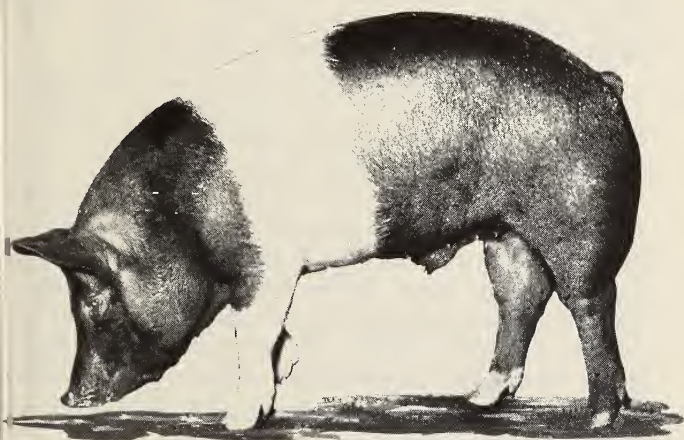
The table shows the differences between grades in cutting yields:



U.S. No. 1

	U.S. No. 1	U.S. No. 2	U.S. No. 3
	(percent carcass weight)		

4 lean cuts (skinned hams, loins, picnics, Boston butts)	50 or more	47-50	Under 47
Bellies	14.7	15.3	15.9
Fat	19.6	22.7	25.7
Other cuts	14.7	14.0	13.4



Slaughter barrows and gilts in this grade have near the minimum finish required for high quality pork. How do you recognize them? They are moderately wide over the top with quite uniform width from front to rear and from topline to underline. The back is moderately full and thick and usually appears well-rounded and blends smoothly into the sides. Note the width through the lower part of the hams in this hog; this thickness is due to muscle, not fat. Carcasses in this grade have a relatively high ratio of lean to fat and usually yield more than 50 percent of their weight in the major lean cuts of hams, loins, picnics, and Boston butts.

DETERMINING THE GRADE

Determining the grade of hogs or pork carcasses means estimating the yield of cuts and quality of meat.

How can this be done? It has to be done on the basis of factors which have been found to have an effect on yields and on meat quality.

These factors include thickness of back fat, thickness of muscling, distribution of finish, and indications of quality.

The best single indicator of grade is back fat thickness in relation to either carcass weight or carcass length. Below is a table showing some back fat thickness guides to the various grades of barrows and gilts or their carcasses.

These measurements are the average of three separate measurements made opposite the first and last ribs and the last lumbar (loin) vertebra.

Back fat thickness is an important factor in grading, but the primary objective is to reflect differences in cutting yields--not just differences in fatness. For a more accurate estimate of yields, other factors must be considered along with back fat thickness, especially when this measurement is near the limits of a grade.

Thickness of muscling can be a deciding factor. For instance, the two hogs pictured above were similar in weight and each had

Carcass weight or carcass length	Average	
	U.S. No. 1	U.S.
120 to 164 pounds or 27 to 29.9 inches. (approximate live weight 180-235 pounds)	1.3 to 1.6	1.6 to 1.9
165 to 209 pounds or 30 to 32.9 inches (approximate live weight 235-290 pounds)	1.4 to 1.7	1.7 to 2.0



an average back fat thickness of 1.5 to 1.6 inches. But the one on the left had thick muscling, so would grade U. S. No. 1, while the one on the right had thin muscling and would grade U. S. No. 2.

Fat distribution must be considered in grading when the back fat measurements obviously are not representative of the rest of the carcass.

Quality of meat must be considered in drawing the line between the minimum finish indicative of the No. 1 grade and the underfinish which indicates the lower quality of the Medium and Cull grades. Fat thickness is the best guide to meat quality in grading live hogs, but in grading carcasses the firmness, belly thickness, and interior fats are considered along with back fat thickness as indications of quality.

Back fat thickness (inches) by grade

U. S. No. 2	U. S. No. 3	Medium	Cull
1.9	1.9 or more	1.0 to 1.3	Less than 1.0
2.0	2.0 or more	1.1 to 1.4	Less than 1.1

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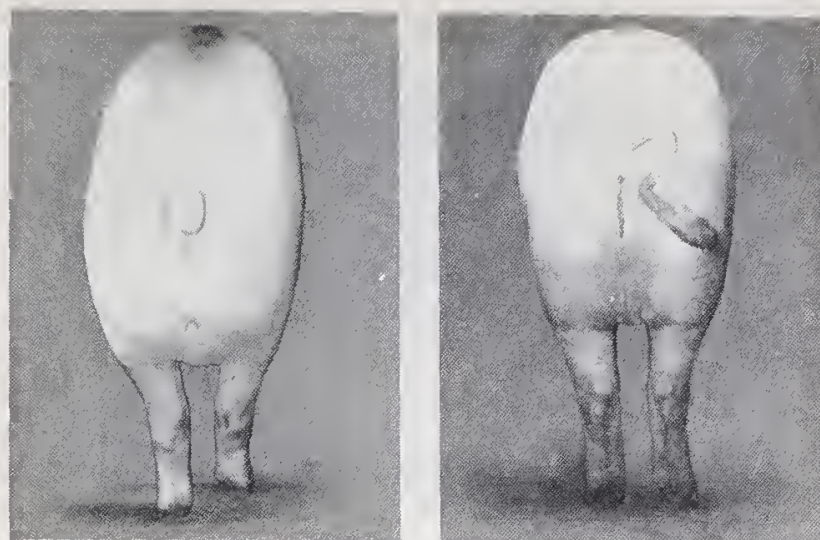
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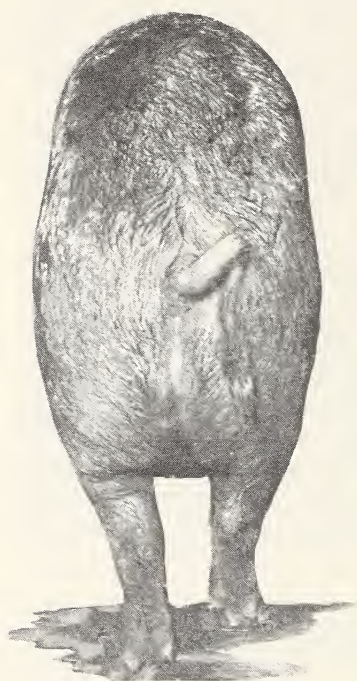
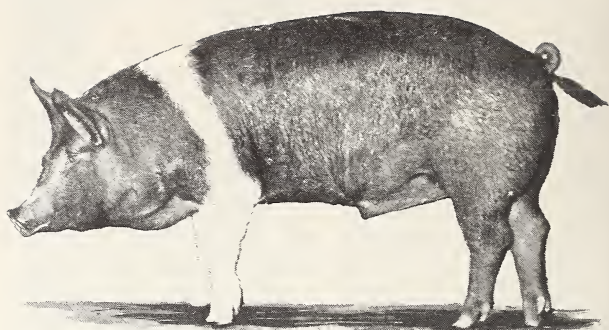


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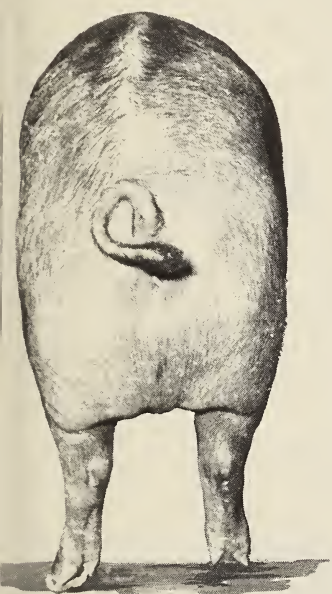
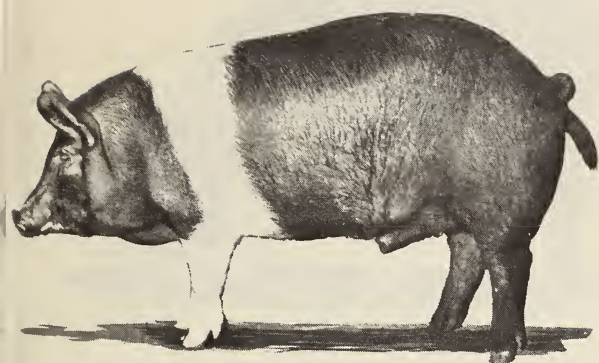
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Carcass weight or carcass length	Average back fat thickness (inches) by grade				
	U.S. No. 1	U.S. No. 2	U.S. No. 3	Medium	Cull
120 to 164 pounds or 27 to 29.9 inches. (approximate live weight 180-235 pounds)	1.3 to 1.6	1.6 to 1.9	1.9 or more	1.0 to 1.3	Less than 1.0
165 to 209 pounds or 30 to 32.9 inches (approximate live weight 235-290 pounds)	1.4 to 1.7	1.7 to 2.0	2.0 or more	1.1 to 1.4	Less than 1.1



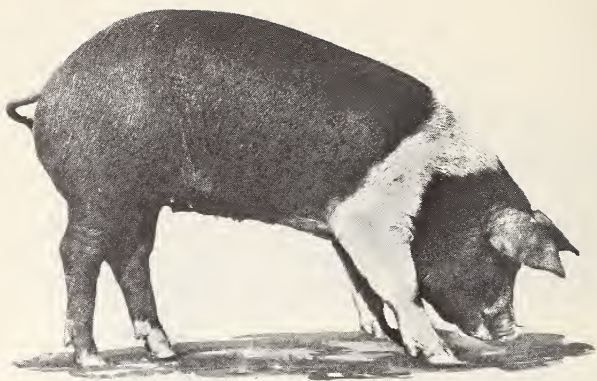
**U.S.
No. 2**

Slaughter barrows and gilts in this grade are slightly fatter than necessary to produce high quality pork and they yield cuts that require considerable trimming. These hogs are wide over the top, and may appear slightly wider at the top than at the underline. The back is full and thick and often appears slightly flat with a noticeable break into the sides. Note the fat deposits over the hams and shoulders and around the tail on this hog.



U.S. No. 3

U. S. No. 3 barrows and gilts are decidedly overfinished. They often are short and are very wide over the back. Width appears greater at the topline than at the underline and greater through the shoulders than through the hams. The back is very full and thick and often appears nearly flat with a pronounced break into the sides. Many cuts have large amounts of internal fat remaining even after heavy trimming of external fat. This hog shows thick fat along the edges of the back, around the tail, and over the lower hams and shoulders.



MEDIUM

Slaughter barrows and gilts in this grade are underfinished and produce soft cuts with little or no marbling. Though yield of lean cuts is relatively high, the pork is of low quality. These hogs are moderately narrow over the top. Width over the top appears less than at the underline. The back is slightly thin and appears rather peaked. Hips may appear slightly prominent.

CULL. Hogs in this grade are decidedly underfinished and produce cuts very inferior in quality. These hogs are narrow over the top; the back is thin and appears peaked at the center, with a decided slope toward the sides. Hips are prominent.

WHAT MAKES MARKET VALUE?

In addition to the grade--which indicates yield of cuts and quality of meat--dressing percentage and weight also are important factors influencing the value of market hogs. Thus:

Grade	}	Market Value
Dressing Percentage		
Weight		

As pointed out on page 4, a difference in grade, which reflects a three percent difference in yield of lean cuts, makes a real difference in the value of hogs or carcasses, because lean cuts bring higher prices than fat.

Dressing percentage--the number of pounds of carcass produced for each 100 pounds of live hog--also has an effect on value. For example, if a U. S. No. 1 hog weighing 200 pounds dressed out at 70 percent and was worth \$15 per hundredweight, a hog of the same grade and weight but having a dressing percentage of 72 would be worth \$15.43 per hundredweight. With a dressing percentage of 68, it would be worth only \$14.57 per hundredweight.

Yield of the four lean cuts as a percent of live weight sometimes is used as a measure of value. This, however, combines carcass cutting yield and dressing percentage into a single figure. Separate identification of the grade (which is based on yield of cuts as a percent of carcass weight) and of the dressing percentage makes it possible to clearly see the effect of each of these factors on value. Also, grade identifies basic differences in hogs which are not readily changed by simply shrinking or filling the hogs.

Demand today for smaller pork cuts often means that light weight hogs will be worth more per hundredweight than heavier weight hogs of the same grade and dressing percentage. So weight is another factor that has a definite effect on market value.

It is easy to see that differences in these value-determining factors may at times offset each other. For instance, hogs of different grades may have similar values because of differences in dressing percentage or weight. Therefore, market reports usually include descriptions of differences in these major price-determining factors---grade, dressing percentage, and weight.

MARKETING YOUR HOGS

Greater attention to marketing can pay dividends to hog producers today.

The decrease in the value of lard and the increasing preference for lean pork have been changing the hog market. At many markets, hogs are now traded on a "merit" basis, with higher prices for hogs with higher yields of lean, high dressing percentage, and desirable weights. The traditional practice of pricing almost entirely on the basis of weight is disappearing.

Producers planning their breeding, feeding, and marketing programs to supply hogs meeting today's demand for pork stand to profit by these changes--now and in the future.

To market desirable hogs--

1. Start with the right kind--select meat-type breeding stock--they may be found in any breed.
2. Feed to the minimum finish necessary for high quality pork.
3. Market regularly at weights currently in greatest demand.